

Appln. No. 10/045,165
Amd. dated 8/27/2003
Reply to Office Action of 8/12/2003

AMENDMENT TO THE CLAIMS

This Listing of Claims will replace all prior versions, and listing, of claims in the application:

LISTING OF CLAIMS:

Claim 1 (original) A gemstone laser marking system comprising:

a gemstone mounted on a fixture;

a pulsed laser for generating a laser pulse having a pulse duration of less than 1 nanosecond;

focusing means for focusing said laser pulse onto a surface of said gemstone to be marked;

means for displacing said gemstone with respect to said laser pulse in a three orthogonal axes mode of operation.

Claim 2 (original) The gemstone laser marking system as recited in Claim 1 wherein a video camera is aligned with said gemstone for recording video images of said gemstone being marked.

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Claim 3 (original) The gemstone laser marking system as recited in Claim 2 wherein a display means is in electrical communication with said video camera for providing a viewable image of said gemstone being marked.

Claim 4 (original) The gemstone laser marking system as recited in Claim 1 wherein said displacement means includes means for driving said gemstone and said fixture in a predetermined path.

Claim 5 (original) The gemstone laser marking system as recited in Claim 1 wherein said displacement means includes means for driving said focused laser pulse in a predetermined path.

Claim 6 (original) The gemstone laser marking system as recited in Claim 5 wherein said displacement means includes:

- (a) steering optics for intercepting said laser pulse and directing said laser pulse towards said surface of said gemstone in a predetermined path; and,

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- (b) mirror means for intercepting and re-directing said laser pulse from said pulsed laser to said gemstone, said mirror means being under galvanometric control.

Claim 7 (original) The gemstone laser marking system as recited in Claim 3 wherein said display means is a video monitor.

Claim 8 (original) The gemstone laser marking system as recited in Claim 1 wherein a computer control system is in electrical communication with said pulsed laser for controlling said pulse duration.

Claim 9 (original) The gemstone marking system as recited in Claim 4 wherein a computer control system is in electrical communication with said means for driving said gemstone and fixture in order to control said predetermined path.

Claim 10 (original) The gemstone laser marking system as recited in Claim 6 wherein a computer control system is in electrical communication with said steering optics for controlling said predetermined path.

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Claims 11-20 (canceled).